

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte RIKIO IKEDA

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Appeal No. 95-0589  
Application 07/873,150<sup>1</sup>

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HEARD: February 6, 1998

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Before CAROFF, KIMLIN and JOHN D. SMITH, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-11, all the claims in the present application. Claim 1 is illustrative:

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<sup>1</sup> Application for patent filed April 24, 1992.

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1. A method of manufacturing a phase-shifting mask having a light shielding portion, a light permeation portion and a phase-shifting portion on a transparent substrate, wherein the method comprises:

forming a negative resist layer over the entire surface of the transparent substrate formed with a light shielding material pattern,

applying exposure through the rearface of the transparent substrate and development to leave the negative resist layer on the light permeation portion,

etching back said negative resist layer to form a sub-space between the negative resist layer and the light shielding portion and using said negative resist layer as a phase-shifting portion.

The examiner relies upon the following reference as evidence of obviousness:

Okamoto	5,045,417	Sept. 3, 1991
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Appellant's claimed invention is directed to a method of making a phase-shifting mask. The mask comprises a light shielding portion and a light permeation portion on a transparent substrate. According to appellant, a "basic feature" of the claimed photolithographic method is exposing the resist through the rear surface of the substrate, wherein light shielding portions on the substrate are used as the exposure mask (page 7 of appellant's principal Brief, last sentence).

Appealed claims 1-11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Okamoto.

Upon thorough review of the opposing arguments presented by appellant and the examiner, we agree with appellant that the examiner has failed to establish a prima facie case of obviousness for the claimed subject matter. Accordingly, we will not sustain the examiner's rejection.

It is well settled that the initial burden of establishing a basis for denying patentability to a claimed invention rests upon the examiner. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. Id. at 1074, 5 USPQ2d at 1598; In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967). In so doing, the examiner is required to provide a reason why one having ordinary skill in the art would have been led to modify a prior art reference to arrive at the claimed invention. The requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1050-52, 5 USPQ2d 1434, 1438-40 (Fed. Cir. 1988).

In the present case, the examiner concedes that although Okamoto discloses a phase-shifting mask having a sub-space between the light shielding portion and the phase-shifting

portion, the reference does not disclose the claimed method for obtaining the mask. However, the examiner concludes "[i]t would have been obvious to one of ordinary skill in the art to use any art-recognized mask manufacturing method to produce sub-space regions because of the expected results of such resist exposure and etching methods being used to produce a known phase-shifting mask" (page 3 of Answer, emphasis added).

The fundamental error in the examiner's rejection is that no factual evidence is relied upon to establish the obviousness of the specifically claimed method steps. Undoubtedly, each of the claimed steps, individually, was known in the photolithographic arts at the time of filing the present invention. However, that each individual step was known is not sufficient to establish a prima facie case of obviousness for the particularly claimed manipulative steps of forming a phase-shifting mask. Stated otherwise, the examiner has presented no evidence that it was known in the art to manufacture a phase-shifting mask by the claimed photolithographic steps. For instance, the processes disclosed by Okamoto and the Nitayama publication for forming phase-shifting masks are different than the claimed method, although they include known photolithographic steps.

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In conclusion, based on the insufficient prior art evidence presented by the examiner, we are constrained to reverse the examiner's rejection.

REVERSED

MARC L. CAROFF	)	
Administrative Patent Judge	)	
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	)	
	)	
EDWARD C. KIMLIN	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
JOHN D. SMITH	)	
Administrative Patent Judge	)	

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